

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE



In re the Application of: **Garvey et al**

Application No: **10/024,040**

Group Art Unit: **1614**

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Examiner: **R. Henley**

For: **Methods for Treating Female Sexual Dysfunctions Using S-Nitrosothiols**

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**Pending Claims**

9. A method for treating a sexual dysfunction in a female individual comprising administering to the female individual a pharmaceutical formulation that comprises an effective amount of an S-nitrosothiol.

13. The method of claim 9, wherein the pharmaceutical formulation is orally administered.

14. The method of claim 9, wherein the pharmaceutical formulation is nasally administered.

15. The method of claim 9, wherein the sexual dysfunction is psychogenic, neurogenic, endocrinologic, drug-induced or vasculogenic.

16. The method of claim 9, wherein the S-nitrosothiol is an S-nitroso-polypeptide, an S-nitrosylated amino acid, an S-nitrosylated sugar, an S-nitrosylated oligonucleotide or an S-nitrosylated hydrocarbon.

17. The method of claim 9, wherein the S-nitrosothiol is S-nitroso-N-acetylcysteine, S-nitroso-captopril, S-nitroso-homocysteine, S-nitroso-cysteine or S-nitroso-glutathione.

18. The method of claim 9, wherein the S-nitrosothiol has one of the following structures:

- (i)  $\text{CH}_3[\text{CH}(\text{R}_e)(\text{R}_f)]_x\text{SNO}$
- (ii)  $\text{HS}[\text{CH}(\text{R}_e)(\text{R}_f)]_x\text{SNO}$
- (iii)  $\text{ONS}[\text{CH}(\text{R}_e)(\text{R}_f)]_x\text{B}$
- (iv)  $\text{H}_2\text{N}-\text{CH}(\text{CO}_2\text{H})-(\text{CH}_2)_x-\text{C}(\text{O})\text{NH}-\text{CH}(\text{CH}_2\text{SNO})-\text{C}(\text{O})\text{NH}-\text{CH}_2-\text{CO}_2\text{H}$

wherein x is 2 to 20;  $\text{R}_e$  and  $\text{R}_f$  are independently hydrogen, lower alkyl, cycloalkyl, aryl, heteroaryl, arylalkyl, amino, alkylamino, amido, alkylamido, dialkylamino, or carboxy, or taken together with the carbon atoms to which they are attached  $\text{R}_e$  and  $\text{R}_f$  are carbonyl, cycloalkyl or bridged cycloalkyl;  $\text{B}$  is fluoro,  $\text{C}_1\text{-}\text{C}_6$  alkoxy, cyano, carboxamido, cycloalkyl, arylalkoxy, alkylsulfinyl, arylthio, alkylamino, dialkylamino, hydroxy, carbamoyl,  $\text{N}$ -alkylcarbamoyl,  $\text{N},\text{N}$ -dialkylcarbamoyl, amino, nitro or aryl.